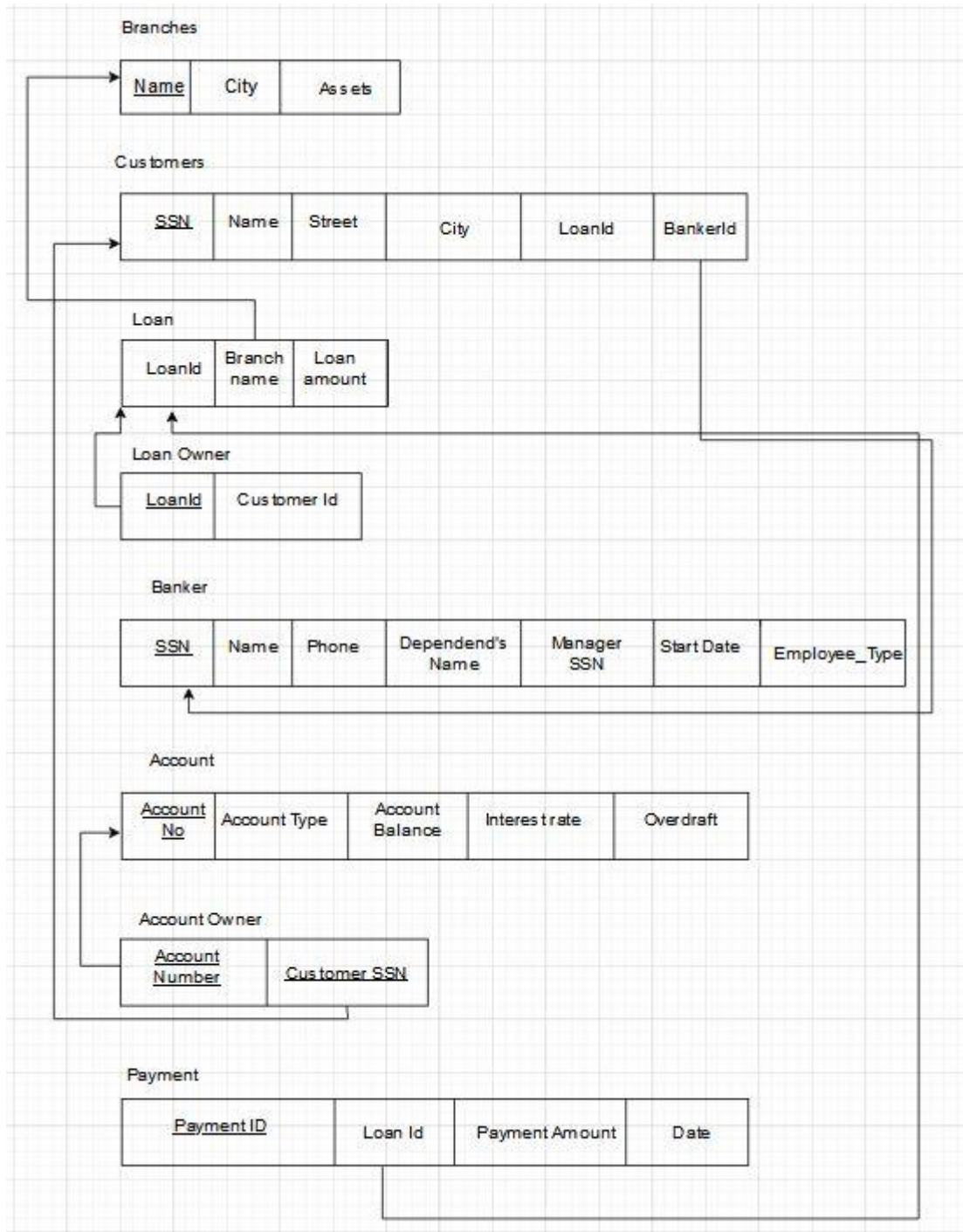


Assignment 2

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The above shown image is the ER diagram of the Bank Enterprise. We have decided to create 8 tables to satisfy the requirement, the design details of which shall be explained below.

Branches

The branch table contains a name which is unique and hence the primary key of the table. It also stores the city name and the assets it controls.

Customers

Here the SSN is the primary key that uniquely identifies each row. We also have other details such as Name, Street, City, LoanId and bankerId. Here BankerId references the primary key of the banker table.

Loan

We have created a separate table for loans which contains details such as LoanId (Primary Key) it's used to identify a row uniquely, Branch Name which references the primary key of the aforementioned branches table and the loan amount.

Here since loan has a M: N relationship with Customer we have created a new table called **Loan Owner** which has the primary key of both the Loan and customer table together to form a composite key.

Banker

Here we have the Banker SSN as the primary key along with some information regarding bankers such as Name, Phone, Dependent's Name, Manager SSN, Start Date, and employee type.

The employee type variable will store the type of employee, either a worker or a manager.

This will allow us the expense of creating another manager table

Account

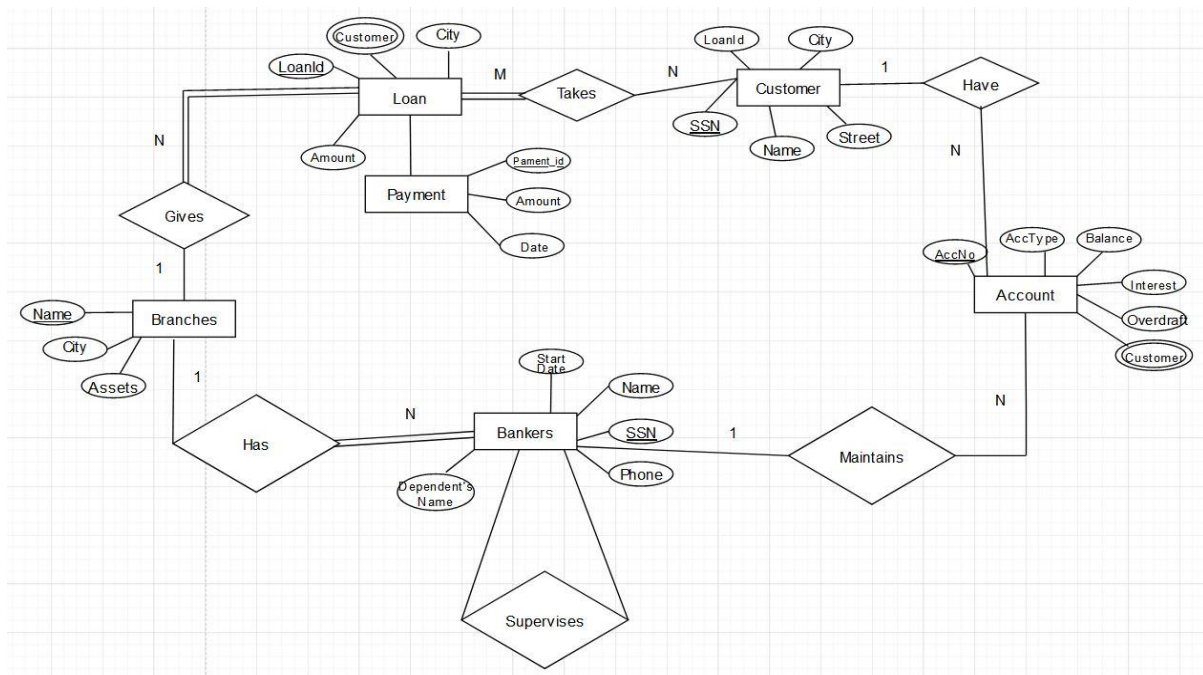
Account information of each customer is store in a different table called the account's table. Here we reference each row uniquely by the primary key Account Number. We store account type which is one of either Checking's or savings accounts, Account balance, Interest rate and overdraft

Since here we have a M: N relationship with the Customer table we can create a separate table called Account Owner and store the primary keys of the account and customer table as a composite key.

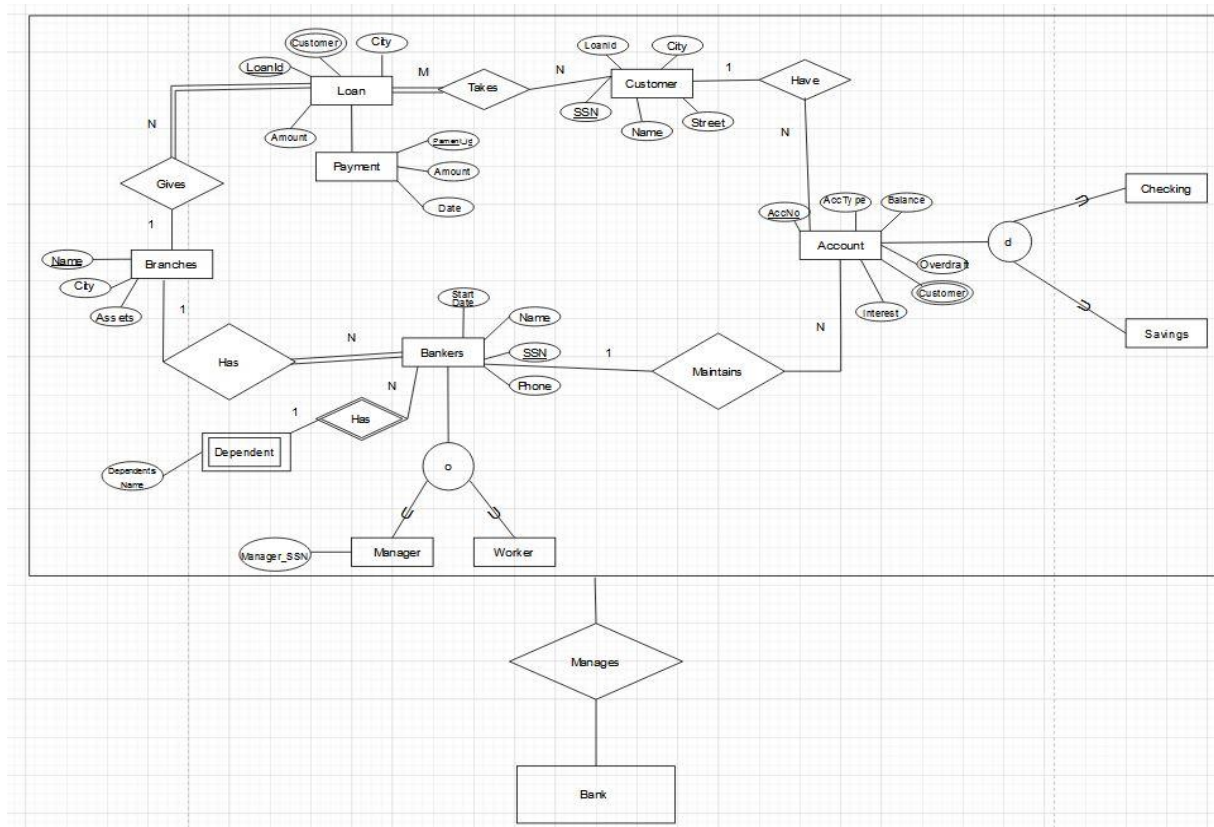
Payment

This table contains PaymentId as the primary key and references the LoanId which is the primary key of the Loan table, Payment Amount, Date. We have decided to create a separate payment table for the loan since a single loan can have multiple payments.

E-R Diagram



E-E-R Diagram



As we can see above the EER diagram has a few changes when compared to the ER Diagram. Here we can see that there can be two accounts, but they are disjoint since it can be either of the 2 accounts. We can also see that Bankers can be divided into 2 types as well i.e., Workers and Managers. But since a manager is a type of worker as well, we have an overlap. And at the last we have aggregated the entire system and created a relation with Bank since the entire system was written from a bank controls point of view.